W. F. Lee – admitted March 29th 1821

Dr Chapman

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To the Professors of the Medical Department of the University of Pennsylvania the following Dissertation is submitted, by Wm F. Lee, a candidate for the Degree of Doctor of Medicine.

The duty of writing a dissertation upon some Medical Subject was enjoined I presume with the following objects: to discover some of the minor acquisitions of education which an examination is not calculated to develop & to obtain the results of the candidate's investigation of the subject chosen. When investigated by Observation & Experiment, the facts thereby acquired, will be appreciated as they might serve to corroborate or weaken previously announced facts: thus giving more certainty to the only legitimate bases of theories Viz. well

established truths. Besides exposing what Dr Cullen has stigmatized by the epithet "False Facts", such species of investigation might develop new & unobserved truths and thus increase or diminish the validity of existing systems. Circumstances have not permitted me to prosecute the investigation of my subject in the above-mentioned eligible manner: I therefore will only communicate concisely, the information which I have otherwise obtained. Dyspepsia is a disease which is highly important, as well from the number & interesting character of its subjects as from its multifarious connections with other diseases. This term is derived from the Greek words δυς & πεπτιω, which imply imperfect concoction. It originated in the too limited if not entirely erroneous notions of the ancients concerning

the process of digestion. Dyspepsia is a Genus of disease of the 2nd Order, Adynamiae, of the 2nd Class, Neuroses of Dr Cullen's Nosology. This arrangement is not unexceptionable. According to his definition of Nervous Diseases dyspepsia must be attended with "Preternatural affections of Sense or Motion or must depend, not upon a Topical affection of the organs but upon a more general affection of the Nervous System". I suppose that the word Sense is used to signify the functions of the five External Senses, which are conspicuously affected in some of the other diseases of this class. There is not one of the dyspeptic Symptoms enumerated by him which discovers great affection of these organs as

is observable in many diseases of other classes. Dyspepsia therefore is not attached to this class by "Preternatural Affections of Sense" as a Diagnostic Symptom. Some of what are called Internal Senses viz Hunger Thirst, Nausea &c., referable to the Stomach are obviously much affected. Dr Cullen I think had no allusion to these. The same objection is equally applicable to "Preternatural Affections of Motion", Dr Cullen not meaning the motions of Internal parts. The Third general characteristic of Nervous diseases viz. dependence, "not upon a Topical affection, but upon a more general affection of the Nervous System", is not in all cases applicable to dyspepsia. In cases of Hereditary Nervous

Temperaments, this disease might be immediately dependent upon, a more general affection of the Nervous system, that general affection constituting the predisposition. This characteristic is applicable to such cases, but, when the nervous temperament is acquired, the dyspepsia is often the primary disease & then is independent of any general affection. The assumption of such independence is warranted, at least, by the fact, that if there is any dependence it is not perceptible by us & our inability to prove the contrary position does not in any wise establish that.

These objections to this part of Dr Cullen's Nosology do not spring from any feeling of disrespect towards that great man, but from

a greater attachment to truth than to authority. He has diligently laboured in the field of Science & his labour has yielded much fruit to discriminating physicians, who are not so dazzled by the splendour of some truths as not to notice concomitant errors. Dyspepsia is a disease of the Digestive System, & has been divided into Symptomatic & Idiopathic. In the first the disease is connected with and is dependent upon a diseased condition of some part or parts other than the Alimentary Canal, as the Liver, Spleen, Pancreas &c. In the Second there is no such connection & dependence primarily, tho, the long continuance of the disease might produce

such connection & dependence.
The Symptoms of this disease vary according to the extent & character of the parts implicated. I will first enumerate those which designate the most simple form of dyspepsia & afterwards will mention some, which are anomalous & characteristic of its more complicated forms. Of the first are, Nausea, Vomiting, Sour Eructations, Cardialgia, Gastrodynia, Gnawing Sensation at the Stomach especially when it is empty, Pyrosis, Constipation, Paleness of the whole surface of the body, disordered appetite, Small & Chorded Pulse. Of the Second are, disordered Vision & various diseases of the organs of that Sense. Palpi

-tation of the heart, disordered condition of the Urinary Secretion, the Urine being sometimes Milky & Saccharine. The Fæces often are of a Clay & Ash colour. The appearance of the Tongue is generally unhealthy. A sense of oppression after meals. An uneasy Sensation & sometimes obtuse pain in the Skin of the back between the Scapulæ. Great Drowsiness, dependent upon constipation. Anxiety about the precordia. The above are some of the symptoms which serve to establish the existence of dyspepsia. An enumeration of all the symptoms which indicate disorder of the digestive apparatus would involve a partial history of many diseases.

From the Situation of the parts

concerned & from the chronic encroachments of the disease it is difficult to recognize the variations from healthy action. This difficulty is greatly augmented by the uncertainty respecting the nature of that healthy action.
At various times & by various authors, Heat, Fermentation, Muscular Action, Solution & Galvanic Action, Separately or Variously conjoined have been considered chiefly instrumental in the process. Some of these agents certainly are concerned & have great influence in the process, but I am not prepared to assign to them their respective degree of importance. That they do not affect the process independent

-ly & exclusively is proven by their in-
-ficacy to elaborate chyle under
the most favourable circumstan-
-ces, the influence of Vitality be-
-ing wanting. I will therefore con-
-sider those which exert any agen-
-cy as Sub-agents, acting under
the control & modification of
that essential principle. Perhaps
too little influence is at present
ascribed to Muscular Action.
It is not to it's comminuting
operation that I allude. The pas-
-sage through the Stomach of
Soft Substances, as Grapes &c un-
-altered, shows that it's operati-
-on in that way is not very con-
-siderable. But it is adjuvant
thus: it contracts the Stomach
upon it's contents, thereby ma-

king the impression from those contents stronger. It is farther influential by propelling the Chyme thro' the Pylorus. How far the Nerves of the Stomach are concerned I know not. My theoretical notions assign to them considerable influence. The agency of the Hepatic System in digestion is very material. The Bile gently stimulates the Intestines to a due peristaltic motion. This is inferred from the diminution of that motion when the ordinary quantity of that fluid is not poured into the intestines, as in Jaundice. It has been supposed to aid also in the Separation of the Faces from the Chyle; it's Resin

-ous part uniting with the former
to its aqueous with the latter.
I have said thus much concern
-ing digestion that some obse
-vations in relation to the Pa
-thology of Dyspepsia might
be more easily introduced.
I am unable to detail the Pa
-thological views of the various
authors who have written upon
the subject to perhaps the in
-conclusiveness of their inves
-tigations renders it unness
-ary. In Dyspepsia the Se
-cretory functions of the Stom
-ach are disordered. Abern
-thy has said that "when a
Secretory Organ is much irri
-tated, the Secretory process of
that Organ is disordered."

Confiding in the truth of this principle & also considering it as a legitimate assumption that there frequently is great Irritation of the Stomach (amounting sometimes to Spasm) the disorder of it's Secretory Functions is a plain a Posteriori inference. This view is corroborated by the following circumstancy. In Pyrosis, the Exhalants (which probably secrete the Gastric Juice) pour out a fluid different from Gastric Juice. The Secretion of Mucous is also disordered, as is evinced by the Spontaneous or Artificial vomiting of a preternaturally large quantity of that fluid. Might not a Superabundance of Mucous, by lining

the internal surface of the Stom-
-ach prevent the effusion of Gas-
-tric Juice into the cavity of that
organ & also prevent ingesta ma-
-king an efficient impression
on the nerves of the Stomach.
That the nerves of the Stomach
are implicated in the disorder
of that organ is highly proba-
-ble. The sensation of oppression
after eating denotes an alteration
in the condition of those nerves.
If they continued sound, Ingesta
which, in health do not produce
any unpleasant sensation but
on the contrary pleasure, would
not be followed by that oppressi-
-on. The propriety too of adapting
to the sensibility of the Stomach
the quantity & quality of the ali-

-ment used, shows an alteration in the nervous condition of that viscus. Considering the Nerves the organs of Sympathy, we must infer from their disorder a corresponding disorder in the Sympathetic relations of the Stomach. That such is the case is rendered probable by certain symptoms.

The presence in the Stomach of an acid is very evident. This appears to be the results of the acetous Fermentation in the food & indicates a diminution in the energy of Vitality: the operation of that principle & that of all Chemical powers being in an Inverse Ratio to each other. The Secretion of Bile is affected. This is deducible from the Clay & ash colour of the Stools; pre

-suming that the healthy aspect of the faeces is dependent upon their admixtures with bile. The torpid state of the Bowels also tends to substantiate this assumption. The affection of this secretion is rendered farther probable by the consideration that "a costive state is generally attended with a slow circulation in the veins belonging to the Hepatic System". Faeces accumulated in large quantity in the intestines, press upon the veins of the Mesentery which go to form the Vena Portarum and thus diminish or retard the afflux of blood to the Liver. The Blood being it's appropriate Stimulus, every diminution or retardation of it, must diminish the heal-

-thy excitement & thereby the heal-thy Secretion of the Liver.
Examination, post mortem, has not thrown much light upon the pathology of this disease. This is in part owing to the circumstance that few dyspep-tics die of this disease but of some other.
Of the Remote causes of Dyspepsia there are Two classes viz. One which operates Immediately upon the Stom-ach & one, whose operation is Medi-ate, thro' the intervention of some other part, or of the whole of the system. Of the first are, Inordinate or unnatural Irritation, occasion-ed by the improper use of Meat & Drink, either as regards their quantity, quality, or untimely use.

The improper use of Medicines, especially Emetics & Narcotics: the latter including Tea, Coffee, Tobacco and Opiums. Almost all diseases which materially affect the Systems.
Of the other class of causes I will enumerate, Indolent & Sedentary living. Excessive employment of the Mind or Body. Excessive Venery and Masturbation. Great Lechery without venereal gratification. Great irritation of certain parts with which the Stomach closely sympathises, as Urethral Irritation from Stricture. Exposure to moist & Cold Air without at the same time using exercise. Improper Clothing.
In the Treatment of Dyspepsia there are Two Indications viz &

palliative & a curative. The first is to be accomplished by mitigating or removing certain symptoms which greatly aggravate the disease (of which indeed they form a part) & distress the patient. They are Costiveness, Acidity &c. The means of combating the first should vary with the variety of the causes of that symptom. As this symptom constitutes a very prominent feature in dyspepsia, I will enumerate some of its alleged causes. They are, General Debility extending to the Muscular Fibres of the bowels. Diminished Secretion of Bile. Too great rigidity of the muscular fibres of the bowels. Too great action of the Absorbents (particularly those of the left portion of the Stom

ach) whereby the faces are left in a state of great dryness & therefore are with difficulty propelled downwards. It is said to be caused also by an endargement of the glands of the Rectum, which diminishes and even obliterates its cavity. It may be caused by a Stricture of the Intestines. It may also be caused by an endargement of the Cells of the Large Intestines, consequent to the too long retention of the faces: the endarged Cells retaining the faces which operate as extraneous matter producing irritation & consequent debility.
It is evident that Constipation will require a treatment which must vary with its Cause.
This treatment might be arran

-ged under two heads viz Surgical & Medical. In the first Mechanical means chiefly, are employed as Suppositories &c. In the second a multitude of means have been resorted to, all of which may be arranged under the heads, Diet, Cathartics, Tonics, Ptyalism, Regular efforts to evacuate the bowels, & Enimatas. This means when judiciously employed generally alleviate the sufferings of the patient. In some cases by establishing a habit of periodical evacuation & by strengthening the bowels they cure this affection. This symptom, however is generally dependent upon & so intimately connected with some of the other symptoms of the disease

that it can be cured only by the cure of those symptoms. The agitation of the body produced by riding on horse-back or by other similar means is very effective in overcoming constipation & must be considered Mechanical tho' it is useful in cases which are strict-ly medical. To relieve Acidity of Stomach, Absorbents & Alkaline substances & Tonics (chiefly Mineral) are employed. They operate; the first, by absorbing the acid; the second, by neutralizing it, and the third by invigorating the Stom-ach & thereby giving to it a master over chemical agency. The use of foods which is easy of digestion & not very fermentable is highly important in the treatment of this affection.

The Second or Curative Indication

is considered by many unattain-
-ble. The small share of success
which physicians have had in the
treatment of this disease is calcula
-ted to repress very sanguine expec
-tations but should not induce
the belief of it's incurability.
The success of the medical treat
-ments depends very much upon
the influence which the phy-
sician has over the minds of his
patients. His remedies which em
-brace alterations in long establish
-ed habits, both of mind & body, are
apt to be neglected. He should
have persuasive power to give to
remote goods so great a predomi
-nance over present enjoyments
as to make the pain of priva
-tion or other existing pain, endu

-ned. The remedies are two kinds viz
Such as operate Immediately up-
on the Stomach & Such as have
a mediate operation upon that
viscus, parts other than the
Stomach constituting the medium.
Of the Seconds class, the practitioner fre-
quently can not avail himself from
circumstances of living in the
patients. They are the proper use
of what olds physicians absurdly
called, Non-Naturals, viz Meat
& Drink, Motion & Rest, Sleep &
Watching, Affections of the Minds,
Temperature, Clothing &c.
Of the first class many Medicines
have been used, tho' without that
Mammoth exaguration which too
often accompanies the introduction
of new remedies. The following are

some of the most important: Emetics of Ipecacuanha or Tartar Emetic. These are given to remove from the stomach, offensive matter & to supplant diseased actions by their continued specific impressions. To effect these objects they should be frequently repeated. Purgatives are next to be administered. Rhubarb & Magnesia are extolled. The latter, in the calcined form, combined with Rhubarb is well adapted to cases in which there is much acidity. Having premised a sufficient number of the above vacuants, or others which might be preferred, Tonics should be used. They are either Vegtable or Mineral. Of the former, Gentian, Quassia, Hop, Peruvian Bark, Sampson-Snake

-roots &c are differently estimated by different persons. Of the Mineral the following are some of the best. Carbonate of Iron, Sulphate of Iron, Phosphate of Iron & Sub-nitrate of Bismuth. I think it unnecessary to mention the various preparations of the above medicines in use. They all are well suited to the case & have their respective advocates. The last-mentioned article is perhaps the most powerful. Its reputation has survived the "bloom of novelty," we are therefore to suppose that it was not overrated.

This disease is often very irregular. The treatment must vary to suit such irregularities. In violent Cardialgias, the best remedies are

Lime-Water & Milk & Alkaline preparations as the Ashes-Mixture. Violent Gastrodynia is most successfully treated by antispasmodics as Æther, Opium, Turpentine, distention of the Stomach by large draughts of new-Milk, Warner's Cordials, Volatile Tincture of Guaicum, Oleum Succini, Bismuth & Sampson Snake root.
Very violent Pyrosis sometimes demands a treatment relating almost exclusively to itself. This affection is endemial in very Northerly Countries & is the result of a morbid Secretory action in the Stomach. When it is caused by the excessive consumption of Salted & Smoked Meats, a change of diet will generally effect a Cure.

It often exists however when there is no such cause & then is treated by Emetics, Bismuth & other means which are calculated to subvert diseased action.
When Dyspepsia is continued by habit, Mercury should be used. It is advised to use four grains of the Blue Pill every night & on the succeeding morning to administer a Mild Laxative. The correlative influence of disease & habit is an interesting subject & well understood, must greatly assist in the cure of many diseases. There is described by Professor Chapman, a variety of Dyspepsia which depends upon "a Slow Species of Chronic Inflammation" It is known by the following Symptoms: "a Strong Sensation of heat & pain

at the pit of the Stomach, a pulse, hard, chorded & quick; Hectic Suffusion; a hard, dry cough; Some wasting of the flesh & strength &c."
It has many symptoms which are common to it & Phthisis Pulmonalis & therefore is apt to be confounded with that disease. It is curable by frequent, small bleedings & by Ipecacuanha & Mercury used separately as alteratives.
"Also occasionally we meet with an original dyspeptic affection to be traced directly to the influence of Spirituous Liquors." It is characterized by extraordinary debility & irritability of the Stomach. Here, the sudden & total abstraction of accustomed stimuli, should be carefully avoided. Nourishing diet & Stimulating Tonics are most

efficacious. In cases of Symptomatic Dyspepsia, the prominent Indication is, the removal of the primary affection. The alleviation of distressing gastric Symptoms makes a Subordinate Indication. The nature & Seat of that primary affection & the violence & character of the gastric Symptoms will point out the most proper treatment. It is now I believe generally acceded that all particular directions concerning diet are useless: different articles being more or less congenial in different cases, & in the same case at different times. The wide difference observable in the dietetic precepts of respectable physicians & the daily experience of most invalids suf-

-ficiently show the futility of such particular directions. These observations are not meant to decry the importance of a well regulated diet but to show that personal experience alone, is the proper guide. Perhaps the advice of an eminent physician upon this subject is most worthy of imitation. He directed his patients to keep a written account, in the Banking Style of Debit & Credit, of the effects of different articles. Thereby they will soon acquire a knowledge of the adaptation of different kinds of food to their particular cases. The digestive organs being weak should not be required to make great exertion. On the part both of

the physician to patients great patience is indispensable: the proper treatment being as chronic as the disease.

In my account of the treatment of Dyspepsia I intentionally omitted to detail the virtues of the Sampson Snake-Root, wishing to exhibit in an unbroken view the evidence which I have obtained concerning it. Several verbal communications from persons who have experienced the utility of the medicine in their own cases, have induced me to believe that it is a powerful Antispasmodic. It's operation is prompt to the relief it gives, permanent. The Subjoined Copy of a Letter from a Res-

-pected gentleman, contains the most satisfactory information which I have acquired respecting the efficacy of this medicine.

Charleston Oct. 28. 1820.

Dear Sir.

In compliance with your request to me, in your's of the 16th Inst. respecting the effect of the Sampson Snake-root and a description of my own case of Dyspepsia I will endeavour to describe both as minutely & correctly as possible. I am now in my 60th year & have been afflicted with indigestion for upwards of 30 years - the symptoms of which were generally, heartburn, acidity & sometimes violent attacks of spasm in the pit of the Stomach - these latter symptoms used to occur less frequently in the earlier part of my life

than afterwards - but as the stomach became more debilitated by every attack and from a want of due caution in abstaining from rich & high seasoned food the Spasms became much more frequent & violent every year - sometimes occurring suddenly without any previous indication, while walking in the streets, and sometimes ceasing as suddenly before I could get home - these attacks became extremely dangerous & my life often depended on my procuring immediate assistance from a Physicians. In the year 1803 I went to Europe where I continued travelling through various countries, until the latter end of the year 1807 when I returned to Charleston - During all that period this dreadful disease continued its attacks -

more or less frequent. My life was in extreme danger from the violence of these Spasms, in London at the Hague & in Paris. In the former place I was attended by Doctr Mat-thew Bailey, and in both the other cities also, by celebrated Physicians - none of whom pretended to do more than to restore my health, for the time, alleging, that a radical cure was not to be expected, but that my health depended upon my using caution in eating & drinking on - by such things as my own experience found to to agree with my stomach. On my return to Caro-lina, however, I found in a Friend and near Connection (Dr Archi-bald Campbell of Beaufort S. Ca.) one who appeared confident in

his opinion, that he could radically remove my complaints, at least for a number of years - and this by the use of Sampson Snake root - a remedy for Dyspepsia which he had lately discovered. On my visiting him at Beaufort just after my recovery from a severe attack, I commenced taking his Medicine, a quantity of which he kept by him, finding it very efficacious in almost every case of indigestion. The Ingredients were, merely, an Ounce of the root steeped in a Pint of Brandy. The manner of my taking it was as follows - viz a half hour before I ate my breakfast I took a Table-Spoonfull of the tincture, mixed in the Same quantity of Water and a Small lump of Sugar. This

dose I again repeated one hour before dinner & continued to take the same every day regularly & without intermission, for ten days, during which time my diet was plain & my meals rather slender. The Doctor then informed me that it was unnecessary to take it longer than that time & that he conceived my cure to be effected & that I might eat what I pleased without danger of a return of the Spasm. I returned to Charleston a short time after and completely tested the efficacy of the Snake Root by gradually indulging in whatever my appetite relished — partaking of the richest foods & in fact living as if I had never been troubled with Dyspepsia. This continued for

about Six years: I then experienced several attacks, some of them very violent, Having recovered however, by the aid of a Physician; as soon as I gained strength sufficient to take exercise I again commenced a course of the tincture for ten days as before. This was in the beginning of the year 1815, nearly Six years ago, and I have never been attacked with it since. I forgot to mention that I took some of the tincture during the Spasm but found no relief from it, and was advised to postpone the taking of it till I got better from the effects of other kinds of medicines. (Purgatives) I did so & after using it as above, found the tone of my Stomach perfectly restored. I therefore think that the Stomach should be prepa-

-ceds previously to a course of the tinc-ture, by a dose or two of Magnesia or Rhubarb. The great benefit I ex-perienced from it was taking it just after a good deal of Medicine taken in my illness. I have relieved many persons, with this remedy & restored them to health when they have been worn down & quite em-ciated by protracted indigestion. If the foregoing observations can be of any service to you it will give me great pleasure that I have had it in my power to contribute my trifling assistance and you have my sincere wishes for your complete success in the undertaking you propose, and am Dear Sir Your Ob. Servt.

Wm Brisbane

A review of what's I have written ex-
-cites a wish that I had time to
shorten some & to lengthen other
parts.